

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 9th, 2008 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-6 and 8-21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claim 1:

The subject matter that was not described in the specification is "an Endec controller, coupled to the write strategy generator, for generating an APC mode signal and a predefined NRZI pattern having a run length changing according to a relationship between recording speed and a bandwidth of the photodiode."

Specifically, that the run length is "changing" is not supported.

The Endec controller is described on page 9 (paragraph 31) of the originally filed specification. There it states that the Endec controller "generates a specific NRZI pattern...designed according to the relative relationship between the recording speed and the FMD bandwidth."

This is followed by an example: "For a relatively slow FMD response, a larger run length can be selected as shown in Fig. 8, where the 11T mark length is selected for the purpose of power control."

This paragraph states that the Endec controller generates a specific NRZI pattern: meaning the specific NRZI pattern it was designed to generate. It does not state that the controller **changes** the NRZI pattern. Again, the paragraph states "the specific NRZI pattern is **designed** according to the relative relationship..."

An Endec controller that generates a NRZI pattern selected during the apparatus' design is very different than the claimed subject matter, which is an Endec controller that generates a **changing** NRZI pattern.

The example in this paragraph is a description of how the run length is selected during the process of designing the Endec controller. This is shown by the "for a relatively slow FMD response..." The FMD response does not change in a given apparatus. Therefore this example must refer to the design of the Endec controller: it indicates that when the apparatus is designed with a slow FMD response, an appropriate pattern is chosen during the design for the Endec controller to output.

Additionally, the Endec controller is depicted as box 105 in Fig. 7. The Endec controller is not shown having any inputs. This indicates that it is designed to output a specific, pre-chosen pattern rather than judging the speed and bandwidth in order to **change** the pattern.

Since the paragraph describing the controller does not disclose that it changes the NRZI pattern, only that the pattern has been selected appropriately during the design of the apparatus, the subject matter in question was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claims 2-6, 8, and 9:

They are dependent on claim 1.

Regarding claim 10:

It contains language similar to that of claim 1.

Regarding claims 11-17:

They are dependent on claim 10.

Regarding claims 18-21:

Claim 18 contains language similar to that of claim 1; claims 19-21 are dependent on claim 18.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claim 22 is rejected under 35 U.S.C. 102(b) as being anticipated by Kenjo (US 5,029,155).

Regarding claim 22:

Kenjo discloses:

A method for controlling laser power in an optical disc recording apparatus (the third embodiment: column 10, lines 15-45; some elements are identical to earlier embodiments to those sections are referenced below as well), the optical disc recording apparatus comprising a laser diode, a photodiode, and an Endec controller, the method comprising:

initiating an APC mode utilizing the Endec controller (it writes a data signal, as per column 9, lines 30-35, so it must use a signal controller);

generating a multi-pulse light pulse with the laser diode having a specific pattern having a predetermined fixed-duty ratio, two power levels (column 10, lines 15-45: it has a fixed duty ratio and two power levels, in that it is either on or off), and a run length longer during the APC mode than allowable without damage to the optical disc when not in the APC mode (Kenjo does not disclose the maximum run length, but it uses a standard modulation system, such as the examples disclosed in column 1, so it must have one. Kenjo does disclose a standard write pulse can be 100 nsec or less in column 2, lines 1-15; and that the APC pulse may be 10 μ s in column 5, lines 1-15; since this is 100 times as long, the APC pulse must exceed the normal allowable pulse

length, as there is no standard optical modulation system that allows pulses this much longer than the shortest pulse);

generating photodiode output voltage according to the sensed power of the generated multi-pulse light pulse during the APC mode (column 10, lines 15-45);

substantially averaging the photodiode output voltage utilizing a signal processor (column 10, lines 15-45: the signal is integrated, so it is averaged); and

utilizing the substantially averaged photodiode output voltage to control power of the laser diode (column 10, lines 15-45: the held signal is used to generate a corrected power level).

Response to Arguments

6. Applicant's arguments filed May 9th, 2008 have been fully considered but they are not persuasive.

Applicant's first argument is that they have been "unable to locate teachings that indicate that the Endec controller cannot or is not capable of generating a different NRZI pattern when 'required.'"

This is not the issue at hand. The Examiner has not argued that it is impossible to create such a controller, but rather that Applicant did not have possession of the claimed invention at the time the application was filed.

Applicant goes on to argue that "paragraph [[0031]" is rightly interpreted as teaching that the Endec controller can and is capable of generating different NRZI patterns."

However, paragraph 31 only states that the Endec controller “generates a specific NRZI pattern,” and that the specific pattern “is designed” according to the stated relationship. It may be that different Endec controllers can be designed to generate different specific NRZI patterns, but there is no disclosure of an Endec controller that changes the NRZI pattern, as per the claim language. Therefore Applicant did not have possession of the claimed invention.

Applicant next argues that “how to set a specific run length is obviously also know [sic] in the art.” Again, this is irrelevant: the question is not whether one of ordinary could create an Endec controller that sets a specific run length, but whether Applicant's original application disclosed an Endec controller that changes the run length. It does not.

Applicant next argues that the application discloses different recording speeds in paragraphs 8, 9, 19, and 20. However, these paragraphs are not describing the invention, but rather examples from the prior art used to illustrate the problem at hand. Furthermore, they do not show an apparatus that changes the recording speed, but are instead just examples of possible recording speeds. In any case, even if the application did disclose an apparatus with different recording speeds, it still does not disclose one that changes the NRZI pattern: it may simply be designed for a single pattern that meets all possible speeds. The important thing is that the application does not disclose changing the pattern.

Applicant next argues that "if one skilled in the art can practice teachings of the disclosure, there seems little valid rationale...to doubt...the inventor...had possession of the claimed invention."

Again, the Examiner has not argued that creating the claimed Endec controller is beyond one of ordinary skill in the art, just that the claimed controller was not disclosed in the specification as originally filed, and therefore Applicant did not have possession of the claimed invention.

To give a hypothetical example, Applicant could amend the claims to claim an optical disc drive that operates at x48 speed. One of ordinary skill could easily create such an optical disc drive -- and indeed there are many on the market today -- but since Applicant did not disclose x48 speed in the originally filed specification, Applicant does not have possession of that invention, and that claim limitation would be rejected.

The actual claim limitation is no different: Applicant is claiming an Endec controller that changes the NRZI pattern. Perhaps one of ordinary skill could create such a controller, but since Applicant only discloses that the controller "generates a specific NRZI pattern," Applicant does not have possession of the claimed invention.

Regarding claim 22, see the rejection above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher R. Lamb whose telephone number is (571) 272-5264. The examiner can normally be reached on 9:00 AM to 5:30 PM Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on (571) 272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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